

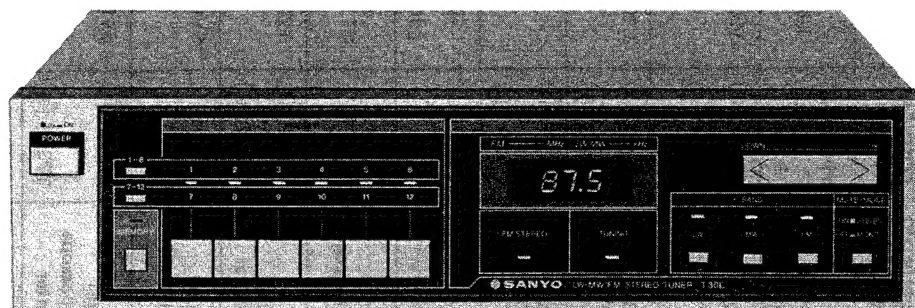
# SERVICE MANUAL

## AM/FM STEREO TUNER



# T30L

(EUROPE)



### SPECIFICATIONS

#### FM section

Frequency range	87.5 — 108 MHz (0.05 MHz steps)
Usable sensitivity	2.0 $\mu$ V (mono)
Signal to noise ratio (1 mV ANT.)	75 dB (mono)
Harmonic distortion (1 kHz)	0.2% (mono)
Frequency response	30 Hz — 15 kHz (+1/–2 dB)
Stereo separation (1 kHz)	45 dB
IF rejection	65 dB
Aerial input	75 ohms unbalanced

#### AM(LW/MW) section

Frequency range	LW: 150 — 360 kHz (1 kHz steps)
	MW: 522 — 1611 kHz (9 kHz steps)
Sensitivity	MW: 350 $\mu$ V/m, LW: 500 $\mu$ V/m
Signal to noise ratio (5 mV/m)	MW: 40 dB
Selectivity	MW: 30 dB

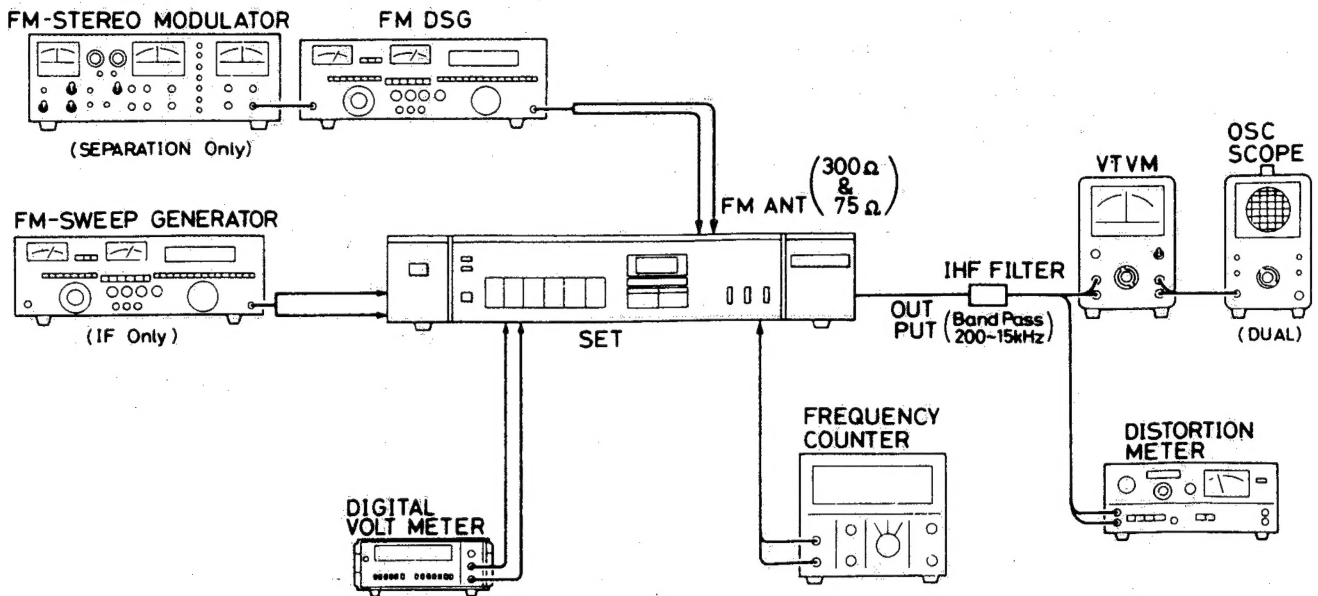
#### General

Power requirements	AC 18 V, 50 Hz
Power consumption	AC 18 V, 450 mA (maximum)
Dimensions (approx.)	335 (W) x 335 (D) x 87 (H) mm (13-1/8" x 13-1/8" x 3-7/16")
Weight (Approx.)	2.2 kg (5 lbs.)

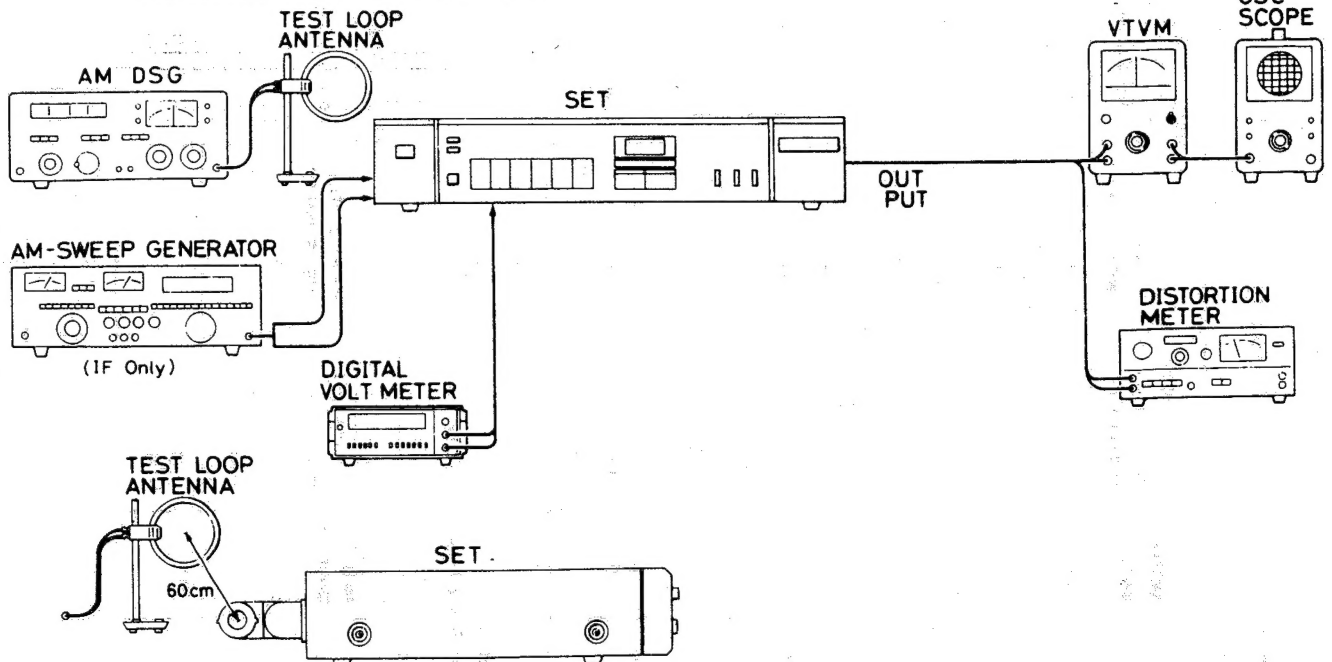
— Specifications subject to change without notice.

## ADJUSTMENT

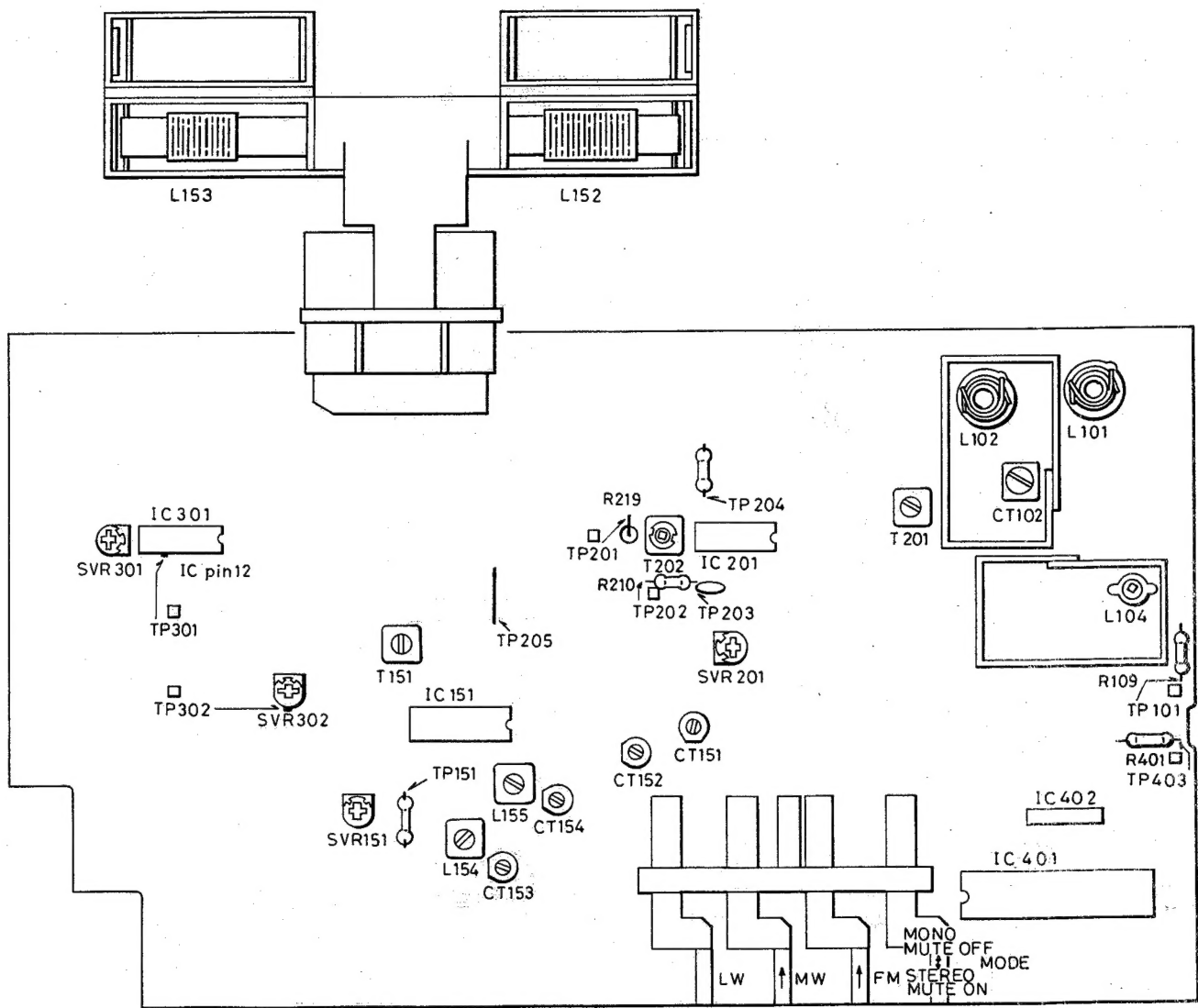
### FM ADJUSTMENT CONNECTIONS



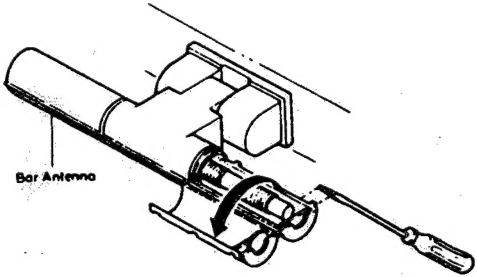
### AM ADJUSTMENT CONNECTIONS



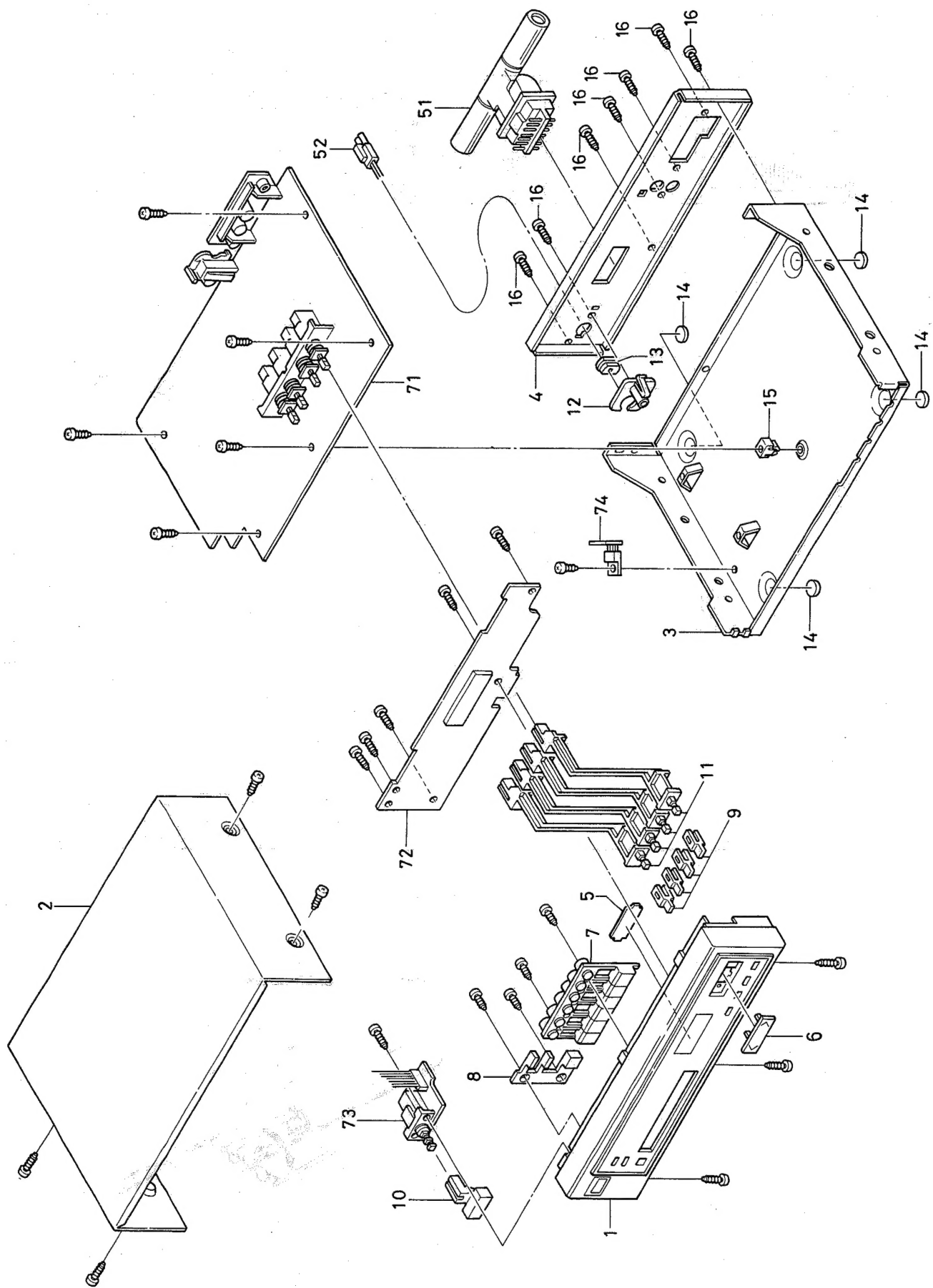
PARTS LOCATION



Removal of antenna cover



EXPLODED VIEW





## PARTS LIST

### PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  $\triangle$  in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with  $\triangle$ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.

Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

## ELECTRICAL PARTS

### NOTE:

\* Materials of Capacitors are abbreviated as follows;

Elect, ..... Electrolytic Capacitor  
 NP. Elect, ..... Non-Polarized Electrolytic Capacitor  
 Mylar ..... Mylar Film Capacitor  
 Polypro ..... Polypropylene Capacitor  
 M. Polypro ..... Metallized Polypropylene Capacitor  
 TF ..... Thin Film Capacitor  
 EDL ..... Electric Double Layer Capacitor

\* Tolerance of Capacitor, Resistors and Other parts are noted with follow symboles;

A ..... +75-10%	M ..... $\pm 20\%$
F ..... $\pm 1\%$	N ..... $\pm 30\%$
G ..... $\pm 2\%$	P ..... +100-0%
J ..... $\pm 5\%$	Z ..... +80-20%
K ..... $\pm 10\%$	

## PACKING & ACCESSORIES

Ref. No.	Parts No.	Description
or	141 6 133T 61601	INNER CORR CASE
	141 6 144T 96300	FOAM PLASTIC CASE, R
	141 6 144T 96400	FOAM PLASTIC CASE, L
	141 6 235T 40501	INNER POLYE LAMINA COVER, SET
	141 6 235T 40506	INNER POLYE LAMINA COVER, SET
	141 6 231T 25350	INNER POLYE COVER, ACCESSORY
	141 6 415T 23500	NOTICE, NORWAY
	141 6 415T 32301	NOTICE, NEW FTZ
	141 6 409T 13401	INST MANUAL
	4 243T 13378	LEAD CORD
	4 245T 00700	ANT, FM

## CABINET & CHASSIS

Ref. No.	Parts No.	Description
1	141 0 122T 56201	FRONT PANEL ASSY
1-1	BJB2S++3+8+Z1	S T BIND H 3X8Z1
2	141 2 111T 61441	CABINET
2-1	BJB2S++3+8+N1	S T BIND H 3X8N1
3	141 2 125T 36500	BOTTOM LID
4	141 2 126T 51101	BACK LID
5	141 2 131T 46300	CLEAR WINDOW, DISPLAY
6	141 2 156T 34900	CUP KNOB, UP/DOWN
7	141 2 160T 47100	PUSH BUTTON, PRESET
7-1	BJN2S2R6+6+Z1	S T PAN H 2.6X6Z1
8	141 2 160T 47300	PUSH BUTTON, MEMORY
8-1	BJN2S2R6+6+Z1	S T PAN H 2.6X6Z1
9	141 2 160T 09701	PUSH BUTTON, BAND
10	141 2 160T 38900	PUSH BUTTON, POWER SW.
11	141 2 253T 40300	JOINT
12	141 2 210T 58100	BRACKET, AC CORD
13	141 2 464T 29700	FIXER, AC CORD
14	141 2 174T 13100	STAND
15	141 2 210T 08900	BRACKET, PCB STAND
16	141 2 421T 43901	SPECIAL SCREW

## ELECTRICAL PARTS

Ref. No.	Parts No.	Description
51	4 257T 61700	ANT COIL, AM
52	4 236T 27500	PLUG, AC 18V (P1)

## TUNER MAIN P.C.B. ASSY

Ref. No.	Parts No.	Description
71	141 4 280T 49703	P.C BOARD ASSY, TUNER MAIN
	BJB2S++3+8+Z1	S T BIND H 3X8Z1
	141 2 322T 18900	SHIELD PLATE, FM PARTS SIDE
	141 2 322T 72100	SHIELD PLATE, FM SOLDER SIDE
	141 2 322T 72101	SHIELD PLATE, COVER
	141 2 382T 20200	TERMINAL, EXT-ANT. (JK1)
	4 240T 50300	SOCKET, AF OUT (JK2)
	4 238T 82900	PUSH SWITCH, BAND (S1)
	4 237T 00100	TERMINAL BOARD, TEST PIN
	4 224R 11600	TRIMMER 8PF, BK
	4 224T 15400	TRIMMER 30PF, GR
CT102	4 224T 15471	TRIMMER 30PF, GR
or	4 224T 15500	TRIMMER 11PF, WH
CT152	4 224T 15571	TRIMMER 11PF, WH
or	4 224T 15400	TRIMMER 30PF, GR
CT153	4 224T 15471	TRIMMER 30PF, GR
or	4 224T 15500	TRIMMER 11PF, WH
CT154	4 224T 15571	TRIMMER 11PF, WH
or	4 224T 15500	TRIMMER 11PF, WH
T151	4 256T 26449	IFT
T201	4 256T 35040	IFT
T202	4 256T 33640	IFT
T203	4 255T 05240	MX COIL
L101	4 265T 56240	VHF COIL
L102	4 265T 56340	VHF COIL
L103	4 253T 15012	FILTER
L104	4 265T 57244	VHF COIL
L151	4 253T 15020	FILTER
L154	4 258T 49540	OSC COIL
L155	4 258T 44649	OSC COIL
L156	4 253T 15037	FILTER
L301	4 253T 15020	FILTER
L302	4 253T 15020	FILTER
L401	4 253T 15020	FILTER

## PARTS LIST

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
L402	4 253T 15020	FILTER	C104	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
X151	4 256T 83772	IF FILTER	C105	CC+50030CRSLF	CERAMIC 3PF 50V C R SL
X201	4 256T 81080	IF FILTER	C107	CC+50220JRS LF	CERAMIC 22PF 50V J R SL
X202	4 256T 81080	IF FILTER	C108	CC+50101KRS LF	CERAMIC 100PF 50V K R SL
X203	4 256T 81080	IF FILTER	C110	CC+50100DRCHF	CERAMIC 10PF 50V D R CH
X401	4 225T 06200	CRYSTAL	C111	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
SVR151	4 220T 15182	SEMI V.R, 10K OHM (B)	C113	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
SVR201	4 220T 15182	SEMI V.R, 10K OHM (B)	C114	CC+50020CRCKF	CERAMIC 2PF 50V C R CK
SVR301	4 220T 15178	SEMI V.R, 2.2K OHM (B)	C115	CC+50100DRCHF	CERAMIC 10PF 50V D R CH
SVR302	4 220T 15182	SEMI V.R, 10K OHM (B)	C116	CC+50050CDVKS	CERAMIC 5PF 50V C D VK
CN2	4 240T 83575	SOCKET 5P	C117	CC+50220JRS LF	CERAMIC 22PF 50V J R CH
CN3	4 240T 83575	SOCKET 5P	C118	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
CN5	4 240T 83575	SOCKET 5P	C119	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
CN7	4 240T 83576	SOCKET, 6P	C120	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
CN9	4 240T 83576	SOCKET, 6P	C121	CC+50101KRS LF	CERAMIC 100PF 50V K R SL
CN11	4 240T 83574	SOCKET 4P	C122	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
CN13	4 240T 83575	SOCKET 5P	C125	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z YF
CN15	4 240T 83573	SOCKET, 3P	C151	CC+50100KRS LF	CERAMIC 10PF 50V K R SL
IC151	SILA1245+++++	IC LA1245 DIP20	C152	CB+25473MR++F	BC CON 0.047MF 25V M R
IC201	SILA1232+++++	IC LA1232 DIP16	C153	CB+25223MR++F	BC CON 0.022MF 25V M R
IC301	SIBA1332+++++	IC BA1332 DIP16	C154	CN100511JR++F	P P CON 510PF 100V J R
IC401	SITC9147P++++	IC TC9147P DIP42	C155	CN100331JR++F	P P CON 330PF 100V J R
IC402	SITD6104P++++	IC TD6104P SIP7	C156	CC+50200JDUJS	CERAMIC 20PF 50V J D UJ
Q101	SF2K212++F++	FET 2SK212 F	C157	CC+50330JDVKS	CERAMIC 33PF 50V J D VK
Q102	STC2999E++++T	TR 2SC2999 E T	C158	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
Q103	SF2K212++F++	FET 2SK212 F	C159	CB+25473MR++F	BC CON 0.047MF 25V M R
Q104	STC930+E++C1	TR 2SC930 E CONV SP	C160	CB+25223MR++F	BC CON 0.022MF 25V M R
Q105	STC2999E++++T	TR 2SC2999 E T	C161	CB+25223MR++F	BC CON 0.022MF 25V M R
Q151	STC536+G+++UB	TR 2SC536 G AUD B SP	C162	CB+25473MR++F	BC CON 0.047MF 25V M R
Q152	STC536+G+++UB	TR 2SC536 G AUD B SP	C163	CB+25223MR++F	BC CON 0.022MF 25V M R
Q201	STC930+E++F1	TR 2SC930 E IF SP	C164	CB+25103MR++F	BC CON 0.01MF 25V M R
Q202	STC536+G+++UB	TR 2SC536 G AUD B SP	C165	CB+25473MR++F	BC CON 0.047MF 25V M R
Q203	STC536+G+++UB	TR 2SC536 G AUD B SP	C166	CE+25475MR++F	ELECT 4.7MF 25V M R
Q301	STC536+G+++UB	TR 2SC536 G AUD B SP	C167	CE+25475MR++F	ELECT 4.7MF 25V M R
Q302	STC536+G+++UB	TR 2SC536 G AUD B SP	C168	CB+25473MR++F	BC CON 0.047MF 25V M R
Q303	STC3330U++++T	TR 2SC3330 U T	C169	CB+25473MR++F	BC CON 0.047MF 25V M R
Q304	STC3330U++++T	TR 2SC3330 U T	C170	CE+16107MR++F	ELECT 100MF 16V M R
Q351	STA608+F+++B	TR 2SA608 F B SP	C171	CB+25103MAXR+	BC CON 0.01MF 25V M A XR
Q352	STC536+G+++UB	TR 2SC536 G AUD B SP	C172	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
Q401	SF2K222++D++	FET 2SK222 D	C173	CB+25103MR++F	BC CON 0.01MF 25V M R
Q402	STC1571F+++++	TR 2SC1571 F	C174	CE+50105MR++F	ELECT 1MF 50V M R
Q403	STC536+G+++UB	TR 2SC536 G AUD B SP	C175	CE+25475MR++F	ELECT 4.7MF 25V M R
Q901	STC536+G+++UB	TR 2SC536 G AUD B SP	C177	CC+50471KAYB+	CERAMIC 470PF 50V K A YB
Q902	STC536+G+++UB	TR 2SC536 G AUD B SP	C178	CB+25223MR++F	BC CON 0.022MF 25V M R
Q903	STC536+G+++UT	TR 2SC536 G AUD T NP	C179	CC+50680JRS LF	CERAMIC 68PF 50V J R CH F
D101	SCSVC211B+++1	VARACTOR DIODE SVC211B SP	C180	CC+50560KRS LF	CERAMIC 56PF 50V K R SL
D102	SCSVC211B+++1	VARACTOR DIODE SVC211B SP	C181	CB+25223MR++F	BC CON 0.022MF 25V M R
D103	SCSVC211B+++1	VARACTOR DIODE SVC211B SP	C201	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
D104	SDDS442+X+++T	DIODE DS442 X	C202	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
D151	SKV1236Z2+++	VARACTOR DIODE KV1236 Z2	C203	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
D153	SDDS442+X+++T	DIODE DS442 X	C204	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
D154	SDDS442+X+++T	DIODE DS442 X	C205	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
D155	SDDS442+X+++T	DIODE DS442 X	C206	CC+50101KRS LF	CERAMIC 100PF 50V K R SL
D201	SDDS442+X+++T	DIODE DS442 X	C207	CE+16106MR++F	ELECT 10MF 16V M R
D301	SDDS442+X+++T	DIODE DS442 X	C208	CE+25475MR++F	ELECT 4.7MF 25V M R
D354	SDDS442+X+++T	DIODE DS442 X	C209	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
D401	SDDS442+X+++T	DIODE DS442 X	C210	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
D402	SDDS442+X+++T	DIODE DS442 X	C211	CE+16107MR++F	ELECT 100MF 16V M R
D403	SDDS442+X+++T	DIODE DS442 X	C212	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
D404	SDDS442+X+++T	DIODE DS442 X	C213	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
D405	SDDS442+X+++T	DIODE DS442 X	C214	CE+16106MR++F	ELECT 10MF 16V M R
D406	SDDS442+X+++T	DIODE DS442 X	C216	CE+50105MR++F	ELECT 1MF 50V M R
D407	SDDS442+X+++T	DIODE DS442 X	C217	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
D901	△ SDDSF10+B+++T	DIODE DSF10 B T	C218	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
D902	△ SDDSF10+B+++T	DIODE DSF10 B T	C220	CE+50474MR++F	ELECT 0.47MF 50V M R
D903	△ SDDSF10+B+++T	DIODE DSF10 B T	C301	CE+16106MR++F	ELECT 10MF 16V M R
D904	△ SDDSF10+B+++T	DIODE DSF10 B T	C303	CE+16107MR++F	ELECT 100MF 16V M R
D905	SDDS135+D+++L	DIODE DS135 D L	C304	CB+25103MR++F	BC CON 0.01MF 25V M R
D906	SDDS442+X+++T	DIODE DS442 X	C305	CB+25103MR++F	BC CON 0.01MF 25V M R
D907	SDDS442+X+++T	DIODE DS442 X	C306	CB+25223MR++F	BC CON 0.022MF 25V M R
C101	CC+50010CRSLF	CERAMIC 1PF 50V C R SL	C308	CN100102JR++F	P P CON 1000PF 100V J R
C102	CC+50101KRS LF	CERAMIC 100PF 50V K R SL	C309	CE+50474MR++F	ELECT 0.47MF 50V M R
C103	CC+50101KRS LF	CERAMIC 100PF 50V K R SL	C310	CE+50105MR++F	ELECT 1MF 50V M R
			C311	CE+50105MR++F	ELECT 1MF 50V M R

PARTS LIST

Ref. No.	Parts No.	Description
C312	CE+50474MR++F	ELECT 0.47MF 50V M R
C313	CE+50474MR++F	ELECT 0.47MF 50V M R
C314	CB+25222MR++F	BC CON 0.0022MF 25V M R
C315	CB+25222MR++F	BC CON 0.0022MF 25V M R
C316	CC+50561KRYBF	CERAMIC 560PF 50V K R YB
C317	CC+50561KRYBF	CERAMIC 560PF 50V K R YB
C320	CE+50474MR++F	ELECT 0.47MF 50V M R
C321	CE+50474MR++F	ELECT 0.47MF 50V M R
C322	CB+25222MR++F	BC CON 0.0022MF 25V M R
C323	CB+25222MR++F	BC CON 0.0022MF 25V M R
C324	CE+50105MR++F	ELECT 1MF 50V M R
C351	CE+50224MR++F	ELECT 0.22MF 50V M R
C401	CC+50220JRCHF	CERAMIC 22PF 50V J R CH
C402	CC+50220JRCHF	CERAMIC 22PF 50V J R CH
C403	CC+50101KRSLF	CERAMIC 100PF 50V K R SL
C404	CC+50101KRSLF	CERAMIC 100PF 50V K R SL
C405	CC+50101KRSLF	CERAMIC 100PF 50V K R SL
C406	CC+50101KRSLF	CERAMIC 100PF 50V K R SL
C407	CE+50105MR++F	ELECT 1MF 50V M R
C408	CE+50105MR++F	ELECT 1MF 50V M R
C409	CB+25103MR++F	BC CON 0.01MF 25V M R
C410	CB+25104MR++F	BC CON 0.01MF 25V M R
C411	CB+25103MR++F	BC CON 0.01MF 25V M R
C412	CB+25103MR++F	BC CON 0.01MF 25V M R
C417	CC+50223ZRYFF	CERAMIC 0.022MF 50V Z R YF
C418	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C422	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C423	CE+10107MR++F	ELECT 100MF 10V M R
C425	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C428	CE6R3108MY++S	ELECT 1000MF 6.3V M Y
C429	CC+50102KRYBF	CERAMIC 0.001MF 50V K R YB
C430	CC+50473ZRYFF	CERAMIC 0.047MF 50V Z R YF
C901	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C902	CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C903	△ CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C904	△ CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C905	△ CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C906	△ CC+50103ZRYFF	CERAMIC 0.01MF 50V Z R YF
C907	CE+35108MY++S	ELECT 1000MF 35V M Y
C908	CE+50105MR++F	ELECT 1MF 50V M R
C909	CE+16107MR++F	ELECT 100MF 16V M R
C915	CC+50473ZRYFF	CERAMIC 0.047MF 50V Z R YF
R101	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R102	RC/+4100JT++R	CARBON T 10 OHM J 1/4W
R103	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R104	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R105	RC/+4101JT++R	CARBON T 100 OHM J 1/4W
R106	RC/+4564JT++R	CARBON T 560K OHM J 1/4W
R109	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R110	RC/+4100JT++R	CARBON T 10 OHM J 1/4W
R111	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R112	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R113	RC/+4101JT++R	CARBON T 100 OHM J 1/4W
R115	RC/+4334JT++R	CARBON T 330K OHM J 1/4W
R116	RC/+4272JT++R	CARBON T 2.7K OHM J 1/4W
R117	RC/+4101JT++R	CARBON T 100 OHM J 1/4W
R119	RC/+4101JT++R	CARBON T 100 OHM J 1/4W
R120	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W
R121	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R122	RC/+4101JT++R	CARBON T 100 OHM J 1/4W
R151	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R152	RC/+4273JT++R	CARBON T 2.7K OHM J 1/4W
R153	RC/+4273JT++R	CARBON T 2.7K OHM J 1/4W
R154	RC/+4101JT++R	CARBON T 100 OHM J 1/4W
R155	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R156	RC/+4122JT++R	CARBON T 1.2K OHM J 1/4W
R157	RF/+2121JSFP+	FP-CARBON S 120 OHM J 1/2W
R159	RC/+4332JT++R	CARBON T 3.3K OHM J 1/4W
R160	RC/+4101JT++R	CARBON T 100 OHM J 1/4W
R161	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R162	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R163	RC/+4221JT++R	CARBON T 220 OHM J 1/4W
R164	RC/+4273JT++R	CARBON T 2.7K OHM J 1/4W

Ref. No.	Parts No.	Description
R165	RC/+4562JT++R	CARBON T 5.6K OHM J 1/4W
R166	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R167	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R168	RC/+4122JT++R	CARBON T 1.2K OHM J 1/4W
R169	RF/+2121JSFP+	FP-CARBON S 120 OHM J 1/2W
R170	RC/+4821JT++R	CARBON T 820 OHM J 1/4W
R171	RC/+4333JT++R	CARBON T 33K OHM J 1/4W
R172	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R201	RC/+4561JT++R	CARBON T 330 OHM J 1/4W
R202	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R203	RC/+4334JT++R	CARBON T 330K OHM J 1/4W
R204	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R205	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R206	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R207	RC/+4563JT++R	CARBON T 56K OHM J 1/4W
R208	RC/+4563JT++R	CARBON T 56K OHM J 1/4W
R209	RC/+4153JT++R	CARBON T 15K OHM J 1/4W
R210	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R211	RC/+4333JT++R	CARBON T 33K OHM J 1/4W
R212	RC/+4273JT++R	CARBON T 2.7K OHM J 1/4W
R213	RF/+2121JSFP+	FP-CARBON S 120 OHM J 1/2W
R214	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R215	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R216	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R217	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R218	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R219	RC/+4124JT++R	CARBON T 120K OHM J 1/4W
R220	RF/+2121JSFP+	FP-CARBON S 120 OHM J 1/2W
R221	RC/+4563JT++R	CARBON T 56K OHM J 1/4W
R301	RF/+2121JSFP+	FP-CARBON S 120 OHM J 1/2W
R302	RC/+4472JT++R	CARBON T 4.7K OHM J 1/4W
R303	RC/+4472JT++R	CARBON T 4.7K OHM J 1/4W
R304	RC/+4223JT++R	CARBON T 2.2K OHM J 1/4W
R305	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W
R306	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R307	RC/+4564JT++R	CARBON T 560K OHM J 1/4W
R308	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W
R309	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W
R310	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W
R311	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W
R312	RC/+4564JT++R	CARBON T 560K OHM J 1/4W
R313	RC/+4564JT++R	CARBON T 560K OHM J 1/4W
R314	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W
R315	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W
R316	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R317	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R318	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R319	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R320	RC/+4332JT++R	CARBON T 3.3K OHM J 1/4W
R321	RC/+4332JT++R	CARBON T 3.3K OHM J 1/4W
R351	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R352	RC/+4101JT++R	CARBON T 100 OHM J 1/4W
R353	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R354	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R355	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R356	RC/+4271JT++R	CARBON T 2.7K OHM J 1/4W
R401	RC/+4472JT++R	CARBON T 4.7K OHM J 1/4W
R402	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W
R403	RC/+4472JT++R	CARBON T 4.7K OHM J 1/4W
R404	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W
R405	RC/+4472JT++R	CARBON T 4.7K OHM J 1/4W
R406	RC/+4822JT++R	CARBON T 8.2K OHM J 1/4W
R407	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R408	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R409	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R410	RC/+4563JT++R	CARBON T 56K OHM J 1/4W
R411	RC/+4563JT++R	CARBON T 56K OHM J 1/4W
R412	RC/+4153JT++R	CARBON T 15K OHM J 1/4W
R413	RC/+4332JT++R	CARBON T 3.3K OHM J 1/4W
R414	RC/+4101JT++R	CARBON T 100 OHM J 1/4W
R415	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R416	RC/+4473JT++R	CARBON T 4.7K OHM J 1/4W
R417	RC/+4153JT++R	CARBON T 15K OHM J 1/4W
R425	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W

PARTS LIST

Ref. No.	Parts No.	Description
R426	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W
R427	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R428	RC/+4273JT++R	CARBON T 2.7K OHM J 1/4W
R429	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R430	RC/+4122JT++R	CARBON T 1.2K OHM J 1/4W
R431	RF/+2121JSFP+	FP-CARBON S 120 OHM J 1/2W
R432	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R433	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R902	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R903	RC/+4103JT++R	CARBON T 10K OHM J 1/4W
R904	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R905	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R907	RC/+4563JT++R	CARBON T 56K OHM J 1/4W
R908	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R909	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R910	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R911	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R912	RC/+4332JT++R	CARBON T 3.3K OHM J 1/4W
R913	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R914	RM/+1820JS+++	METAL S 82 OHM J 1W
R915	RC/+4562JT++R	CARBON T 5.6K OHM J 1/4W

DISPLAY P.C.B. ASSY

Ref. No.	Parts No.	Description
72	141 4 280T 49872	P.C BOARD ASSY, DISPLAY
	BJB2S++3+8+Z1	S T BIND H 3X8Z1
	141 2 210T 58000	BRACKET
	141 2 382T 22200	TERMINAL
	141 2 382T 22300	TERMINAL
	4 238T 70873	SWITCH (S4)
	4 238T 70873	SWITCH (S5)
	4 238T 70873	SWITCH (S6)
	4 238T 70873	SWITCH (S7)
	4 238T 69800	SWITCH (S8)
	4 238T 69800	SWITCH (S9)
	4 238T 69800	SWITCH (S10)
	4 238T 69800	SWITCH (S11)
	4 238T 70873	SWITCH (S12)
	4 238T 69800	SWITCH (S13)
	4 238T 69800	SWITCH (S14)
CN4	4 240T 83575	SOCKET 5P
CN6	4 240T 83575	SOCKET 5P
CN8	4 240T 83576	SOCKET, 6P
CN10	4 240T 83576	SOCKET, 6P
CN12	4 240T 83572	SOCKET, 2P
IC451	SITD6301AP+++	IC TD6301AP DIP28
Q451	STC536+G+++UB	TR 2SC536 G AUD B SP
Q452	STC536+G+++UB	TR 2SC536 G AUD B SP
Q453	STC536+G+++UB	TR 2SC536 G AUD B SP
D451	SLSLP138CB5RE	LED SLP138C-51 B RE
D452	SLSLP138CB5RE	LED SLP138C-51 B RE
D453	SLSLP138CB5RE	LED SLP138C-51 B RE
D454	SLSLP138CB5RE	LED SLP138C-51 B RE
D455	SLSLP138CB5RE	LED SLP138C-51 B RE
D456	SLSP236BB51GR	LED SLP236B-51 B GR
D457	SLSP236BB51GR	LED SLP236B-51 B GR
D458	SLSLP138CB5RE	LED SLP138C-51 B RE
D459	SLSLP138CB5RE	LED SLP138C-51 B RE
D460	SLSLP138CB5RE	LED SLP138C-51 B RE
D461	SLSLP138CB5RE	LED SLP138C-51 B RE
D462	SLSLP138CB5RE	LED SLP138C-51 B RE
D463	SLSLP138CB5RE	LED SLP138C-51 B RE
D464	SLSLP138CB5RE	LED SLP138C-51 B RE
D470	SLSL2529K++GR	LED SL2529K GR (LED DISPLAY)
C451	CC+50101JASL+	CERAMIC 100PF 50V J A SL
C452	CC+50101JASL+	CERAMIC 100PF 50V J A SL
C453	CC+50101JASL+	CERAMIC 100PF 50V J A SL

Ref. No.	Parts No.	Description
C454	CE+16106MY++S	ELECT 10MF 16V M Y
R451	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R452	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R453	RC/+4102JT++R	CARBON T 1K OHM J 1/4W
R461	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R462	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R463	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R464	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R465	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R466	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R467	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R468	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R469	RC/+4151JT++R	CARBON T 150 OHM J 1/4W
R470	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R471	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R472	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R473	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R474	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R475	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R476	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R477	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R478	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R479	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R480	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R481	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R482	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R485	RC/+4272JT++R	CARBON T 2.7K OHM J 1/4W
R486	RC/+4331JT++R	CARBON T 330 OHM J 1/4W
R487	RC/+4563JT++R	CARBON T 56K OHM J 1/4W
R488	RC/+4104JT++R	CARBON T 100K OHM J 1/4W
R489	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W
R490	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W
R491	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W
R492	RC/+4222JT++R	CARBON T 2.2K OHM J 1/4W
R493	RC/+4821JT++R	CARBON T 820 OHM J 1/4W
R494	RC/+4221JT++R	CARBON T 220 OHM J 1/4W
R495	RC/+4563JT++R	CARBON T 56K OHM J 1/4W
R496	RC/+4563JT++R	CARBON T 56K OHM J 1/4W
R497	RC/+4821JT++R	CARBON T 820 OHM J 1/4W
R498	RC/+4821JT++R	CARBON T 820 OHM J 1/4W

POWER SW. P.C.B. ASSY

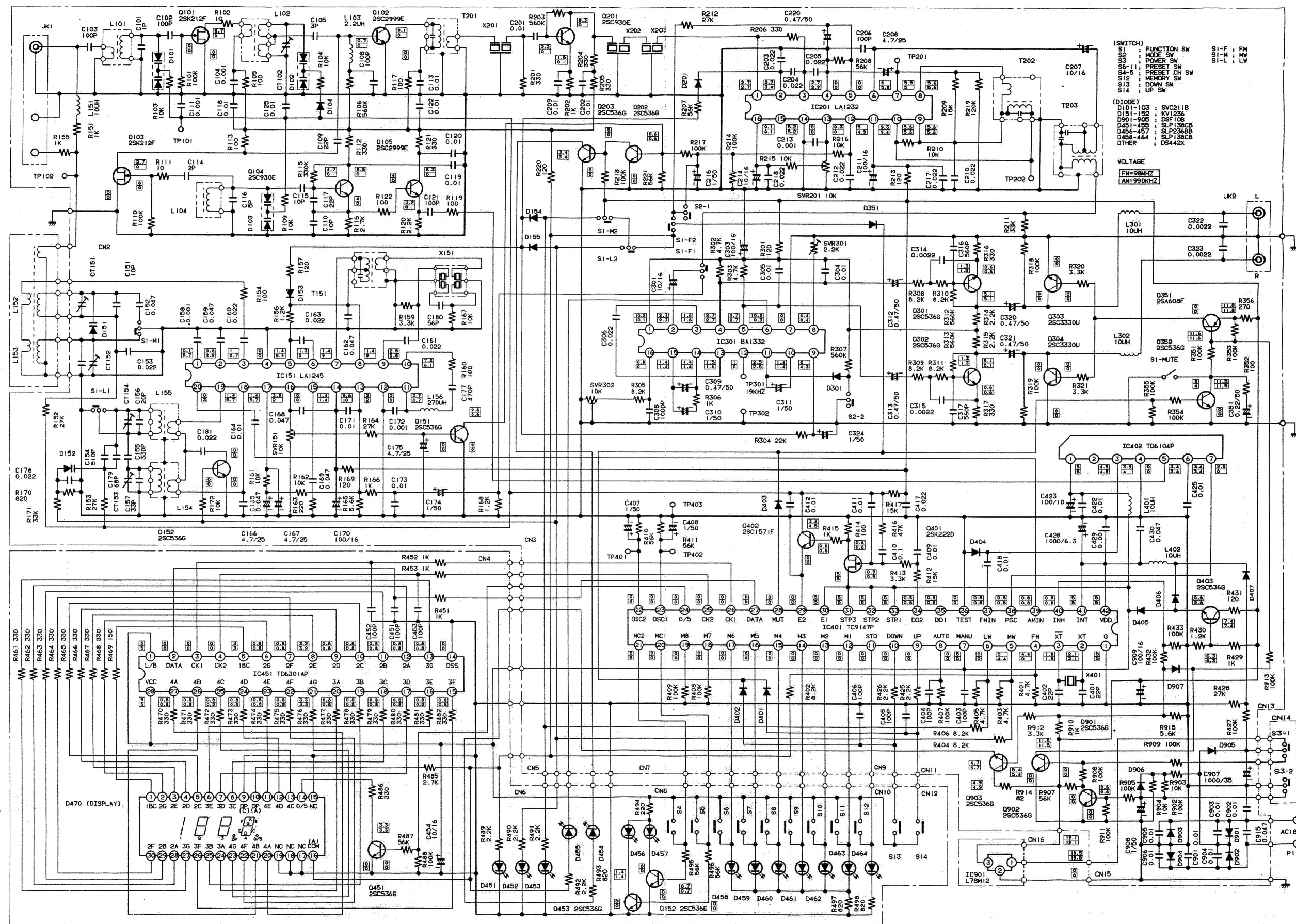
Ref. No.	Parts No.	Description
73	141 4 280T 49900	P.C BOARD ASSY, POWER SW.
	BJB2S++3+8+Z1	S T BIND H 3X8Z1
	△ 4 238T 83100	PUSH SWITCH, POWER (S3)
CN14	4 240T 83575	SOCKET 5P

IC P.C.B. ASSY

Ref. No.	Parts No.	Description
74	141 4 280T 50100	P.C BOARD ASSY, IC
	BJB2S++3+4+Z1	S T BIND H 3X4Z1
	4 240T 83573	SOCKET, 3P
CN16	SIL78M12S++++	IC L78M12S TO-220AB
IC901		



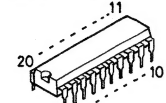
SCHEMATIC DIAGRAM



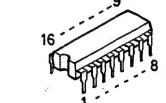


WIRING DIAGRAM

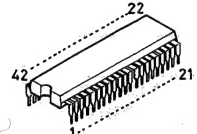
IC CONNECTION  
LA1245...IC151



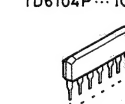
LA1232...IC201  
BA1332...IC301



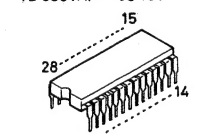
TC9147P...IC401



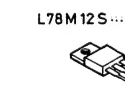
TD6104P...IC402



TD6301AP...IC451



L78M12S...IC901

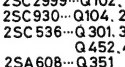


TRANSISTOR CONNECTION

2SC536...Q903  
2SK222...Q401  
2SC1571...Q402



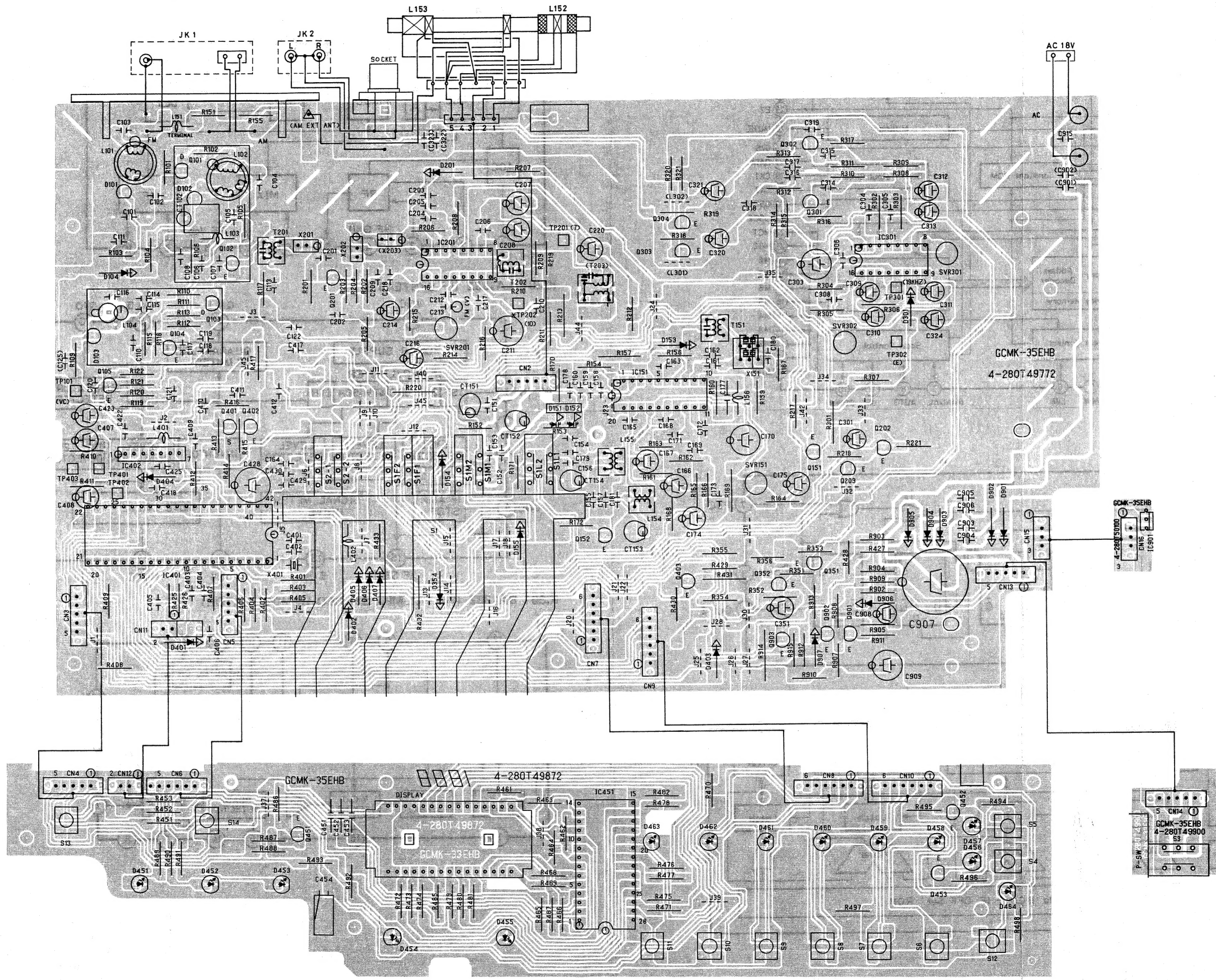
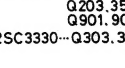
2SK212...Q101, 103  
2SC2999...Q102, 105  
2SC930...Q104, 201  
2SC536...Q301, 302, 451  
Q452, 453  
2SA608...Q351



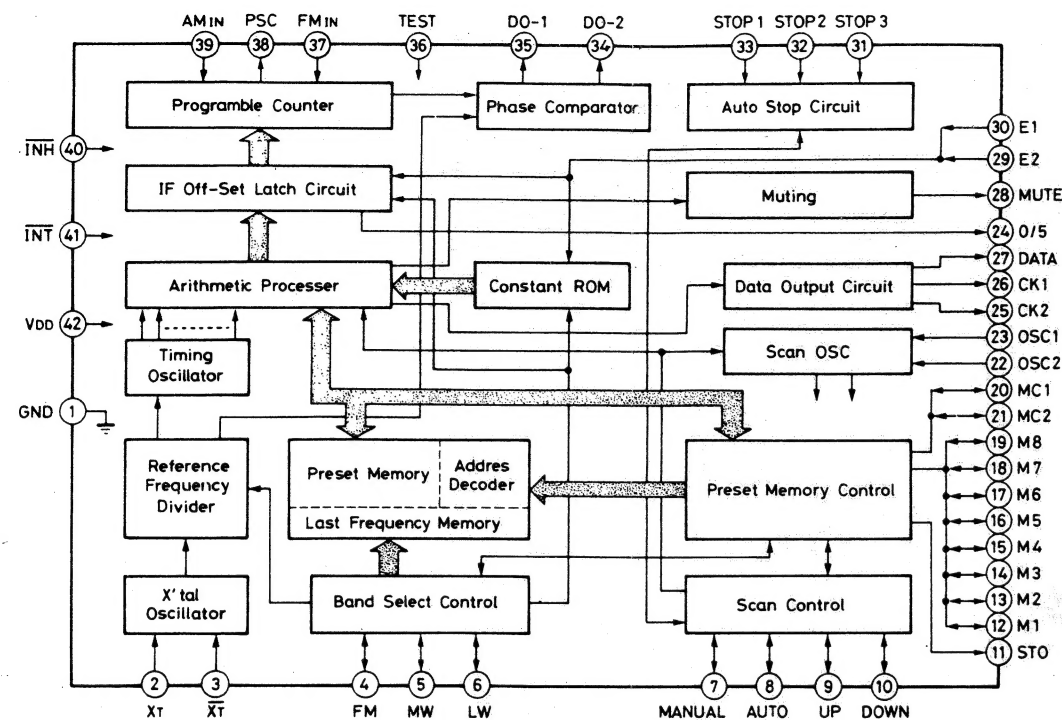
2SC536...Q151, 152, 202  
Q203, 352, 403  
Q901, 902  
2SC3330...Q303, 304



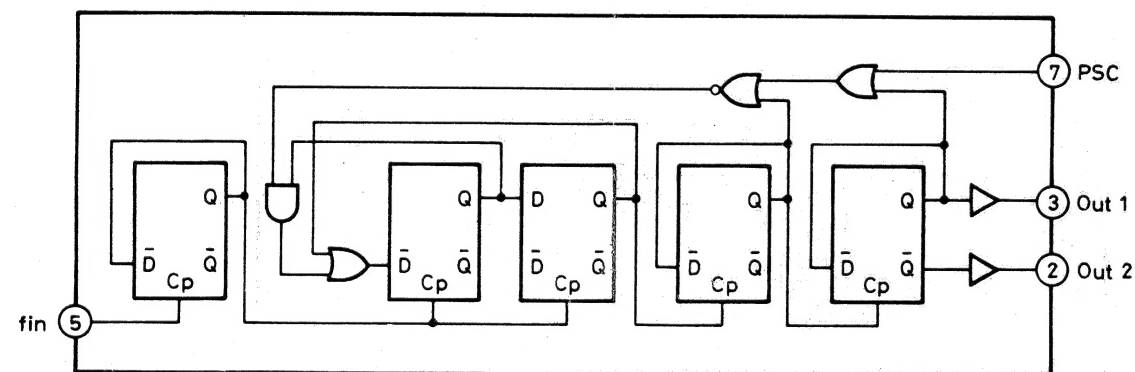
2SC536...Q151, 152, 202  
Q203, 352, 403  
Q901, 902  
2SC3330...Q303, 304



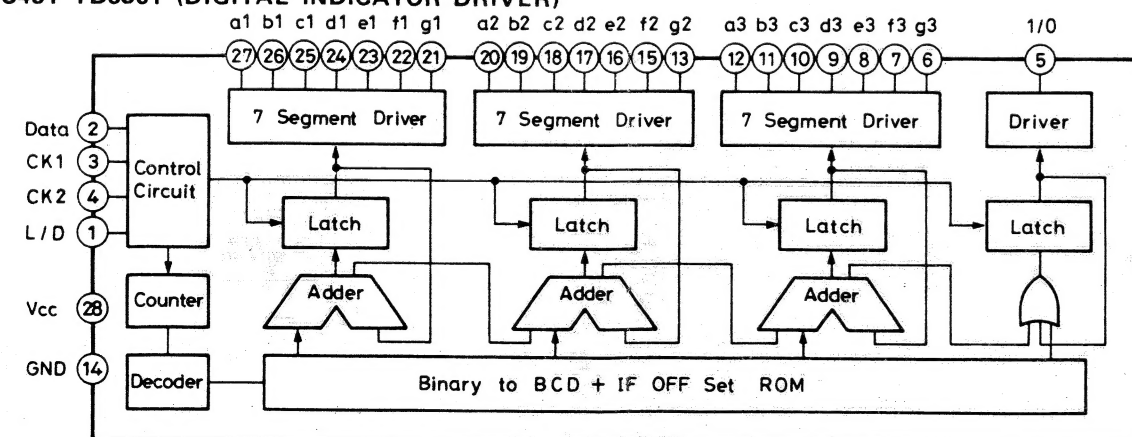
IC401 TC9147 (DIGITAL TUNING SYSTEM)



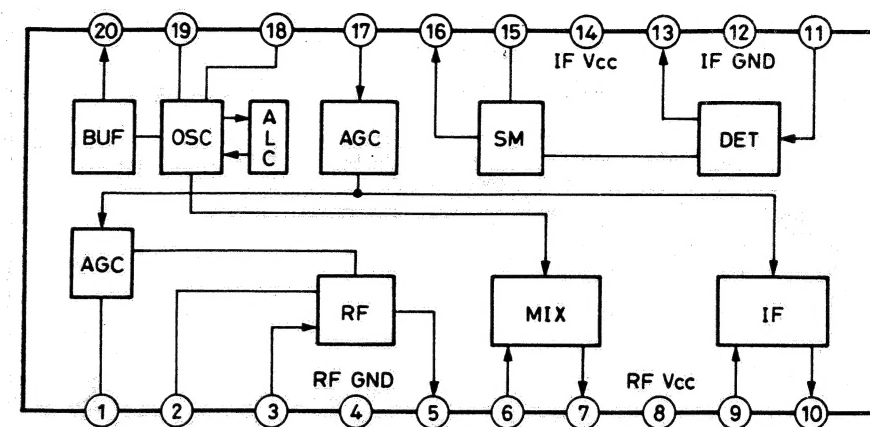
IC402 TD6104 (FM PRE-SCALER)



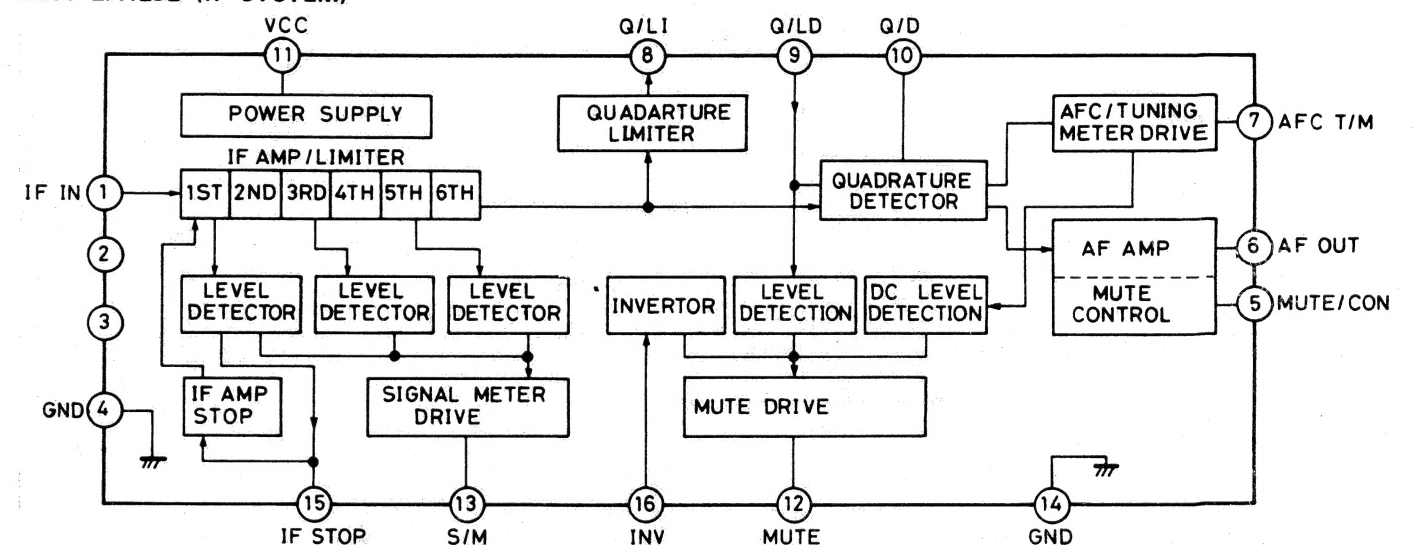
IC451 TD6301 (DIGITAL INDICATOR DRIVER)



IC151 LA1245 (AM TUNER SYSTEM)



IC201 LA1232 (IF SYSTEM)



IC301 BA1332 (FM PLL-MPX STEREO DEMODULATOR)

